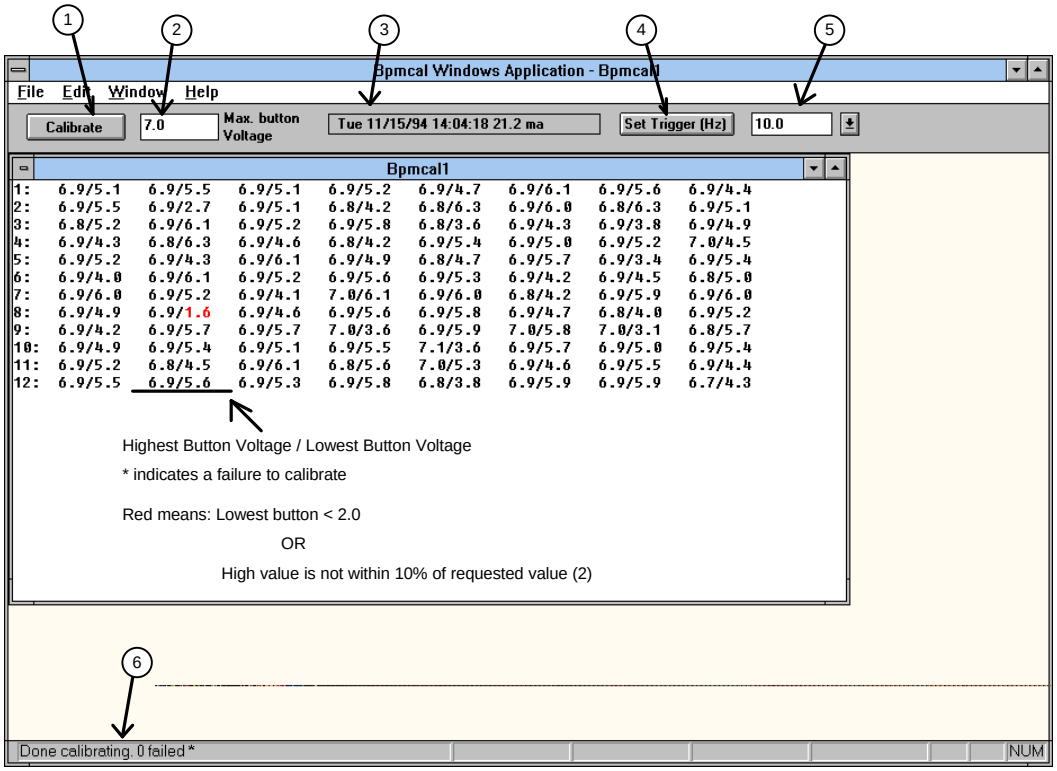
Using BPMCAL to Calibrate the Storage Ring BPM's
Chris Timossi
11/15/94

Selecting **BPMCAL** in the **BPM groupbox** starts an applications that can be used to calibrate all the Storage Ring BPMs. This application should be used in place of **BPMALL**, which it replaces.

When the application is launched, a window similar to the one below is displayed. In addition, the "graphics server" icon should appear at the bottom of the desktop (not shown). The previous time and date that a calibration was done, *using this application*, is shown on the toolbar (3).

To **perform a calibration**, first make sure that the BPM's are being triggered by pressing *Set Trigger* (4). This will set the BPMs to trigger at the rate indicated in the combo box (5). The rate should only be changed (5) for special situations. Next, check the *Max. button Voltage* (2), this should almost always be left as the default (7.0). Valid ranges are 2.0 to 9.0 volts. When the *calibrate* button (1) is pressed, the application will attempt to increase or decrease the BPM gain until the one of the 4 BPM buttons reaches the value requested (2). When all the BPMs have reached this voltage, a calibration is performed. This process takes a few minutes.

The **result of the calibration** is displayed in a text window as shown. The *number* of calibration failures is shown in the status bar (6). Values indicated in red are warnings about the validity of the readings: either one of the button readings is to low (< 2.0 volts) or no button was able to reach the voltage requested (2).



Diagnostic Displays

The *Window* menu item can be used to select two other displays. Selecting *raw* displays a stacked bar chart of the 4 raw button signals. Selecting a bar with the mouse, displays the bpm number and button values in the *Status Bar* (at the bottom of the window).

The *gain* item under the *Window* menu, displays a graph of the gains of the BPMs. Selecting a point on the graph with the mouse displays the value of the gain in the Status Bar.

Failures

Failures may be the result of hardware, i.e. ILC problems or BPM hardware problems, absence of beam, or software problems. To locate the problem, first make sure that the ILC is connected and communicating using the ILC status page on CTLPLAY. Next make sure there is a read trigger; the stanford timer trigger light should be flashing. Retry the calibration. If one particular ILC still refuses to calibrate, try reloading the ILC.